

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

77 West Jackson Boulevard
Chicago, Illinois 60604

DATE:

SUBJECT: INSPECTION REPORT – Packaging Corporation of America, Filer City,
Michigan

FROM: Katie Owens, Environmental Engineer

THRU: Nathan A. Frank, Chief
Air Enforcement and Compliance Assurance Section, (IL/IN)

TO: File

Date of Inspection: August 14, 2013

Attendees: Katie Owens, Environmental Engineer, U.S. EPA
Roshni Brahmbhatt, Environmental Engineer, U.S. EPA
Shane Nixon, Environmental Engineer, MDEQ
Caryn Owens, Environmental Quality Analyst, MDEQ
Chris Brandt, Biogas Superintendent, PCA
Maureen Barry, Technical Manager, PCA
Sara Kaltunas, Environmental Engineer, PCA
Bill Peretin, Mill Manager, PCA
Jerry Nowick, Powerhouse Recovery Superintendent, PCA

Purpose of Inspection: The purpose of the inspection was to investigate compliance of Packaging Corporation of America (PCA) with the National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry at 40 C.F.R. Part 63, Subpart S and PCA's Renewable Operating Permit (ROP).

Company Description and Background:

Location: 2246 Udell Street, Filer City, Michigan 49634

Primary Contact: Sara Kaltunas, Environmental Engineer, PCA

PCA is a pulp and paper mill specializing in corrugated medium, a material used in corrugated cardboard.

Opening Discussion and Process Overview

Ms. Brahmhatt and I (We) initially drove to a separate parking lot alongside Packaging Corporation of America (PCA) to meet the two MDEQ inspectors. At approximately 8:30 am we met MDEQ inspectors Shane Nixon and Caryn Owens. After introductions we proceeded to PCA. Upon arrival to PCA's visitor parking lot we noted a slight odor and proceeded to the visitor's office at 8:36 am. Upon entry, we presented our credentials to the security guard on duty. We asked him to call PCA's Environmental Manager. The security guard called Maureen Barry, PCA's Technical Manager. Ms. Barry and Sara Kaltunas, PCA's Environmental Engineer, met us at the security office. We presented our credentials to Ms. Barry and Ms. Kaltunas and explained that we would be performing a Clean Air Act (CAA) inspection which would consist of information gathering and a tour of the facility. Ms. Barry and Ms. Kaltunas escorted us to one of PCA's conference rooms.

We entered the conference room at 8:47 am. We began by asking general questions about PCA. Ms. Barry and Ms. Kaltunas stated that PCA began as a lumber mill in 1897. It first became a paper mill in 1927. PCA was previously owned by another company and changed names (to PCA) in 1999. This PCA location has 325 employees and works three shifts, 7 days per week. PCA employs four rotating crews devoted to maintenance. PCA has an annual outage in October, which lasts 5 to 6 days.

PCA is a publically traded company that produces corrugated medium, a material used in corrugated cardboard. This location produces approximately 1,250 tons per day, or 450,000 ton per year of corrugated medium. PCA's top competitors are Georgia Pacific and International Paper.

The closest residence to PCA is across the street. PCA has received noise complaints related to the coal conveyer process. Mr. Nixon and Ms. Caryn Owens stated that MDEQ has received odor complaints about PCA.

Before starting into the process discussion, we requested a facility diagram so that we could follow along visually as each process at PCA is discussed. Ms. Barry and Ms. Kaltunas provided a PCA facility schematic for us to share.

Ms. Barry and Ms. Kaltunas stated that we were currently situated in building #23. They stated that the "Block #" used on the facility schematic provided, referenced round wood and chip storage locations.

PCA uses chips and recycled material (old corrugated boxes) to produce the corrugated medium. PCA receives approximately 1,500 tons per day of lumber in chips and round wood. The lumber is cut into 8 foot sections for use. PCA uses roughly 45% round wood and 55% chips with 550 tons per day of recycled material. The round wood is sent through the Debark/Wood Room to debark and chip the round wood. The debarking and chipping occurs in Building #33 – Wood Room. Round wood is fed into the machine, a drum knocks off the bark and then it's chipped. These chips are then combined with saw mill residual before continuing to the Chip Washing process. The Wood Room utilizes cyclones to control the particulate on the rotary drum and chip transport.

PCA visually inspects the cyclones in the Wood Room. PCA has two chip transfer systems, a belt and a pneumatic system. The pneumatic system is used when the belt is down, which is approximately once every two months. PCA performs visual emissions monitoring daily when the pneumatic system is used.

Next the raw materials are sent to the pulp mill. The raw materials start in Building #31 – Chip Washing to wash off debris with hot process water referred to as “white water.”

The product continues through the Pulp Mill process to the digester for chemical cooking. The cooker is a continuous digester with multiple chambers to receive materials from silos. The cooker is set at 353°F.

The product leaves the cooker as defibrate chips to become pulp in Rooms #7, #8, #9 and #18 before entering the Beater Room #10. Defibrater plates make contact with the chips, steam and cooking liquor (sodium carbonate). Following this process, the product is pulp.

The pulp is blown to the Blow Tower Tank which has a four hour retention time that routes the pulp to a 2-stage drum washer. This washer has a daily throughput of 700 tons per day of pulp. Next, pulp enters the Beater Room #10 for stock blending and refining. The Beater Room has three inputs: virgin fiber (pulp), secondary fiber (recycled) and broke (recycled paper). The percentage of each input depends on the final paper quality.

The product is routed to the Paper Machines. PCA has three Paper Machines on site (Room #11, #14 and #28). Paper Machine #1 (Room #11) was installed in 1951, Paper Machine #2 (Room #14) was installed in 1927, and Paper Machine #3 (Room #28) was installed in 1957.

The blended stock is routed to the Head Box where it is diluted to 1% stock / 99% water. This mixture is spread uniformly across a rotating wire and is routed to Gravity Boxes to dewater the blended stock. At this point the stock is 20% solids / 80% water. Next, it's routed to a vacuum with a two press section, in series, which dewateres the stock to 40% solids / 60% water. Finally the stock is sent through steam heated driers which dries the stock to 90% solids/10% water, the composition of the final product. Paper Machine #1 has 28 dryer cans, Paper Machine #2 has 52 dryer cans, and Paper Machine #3 has 56 dryer cans.

At this point in the conference, Bill Peretin, PCA Mill Manager, entered the conference room. We introduced ourselves and continued the opening conference.

Ms. Barry and Ms. Kaltunas stated that the steam for the Paper Machines came from PCA's power house. PCA utilizes natural gas, coal and biogas to fuel its boilers. PCA hopes to stop using coal in October. PCA has three boilers onsite, Boiler #1, Boiler #2 and Boiler #4A. Boiler #1 uses coal and natural gas, though recently has relied heavily on coal. The ratio of coal and natural gas used in each boiler depends on the cost of each material. Boiler #2 uses coal, natural gas and biogas, though it is currently uses coal. Boiler #4A uses natural gas and biogas, recently using more natural gas. Typically PCA supplements the biogas with natural gas in Boiler #4A. PCA has used coal heavily recently in order to use the stockpiled coal. Prior to March 2013, PCA used only gas in Boiler #1. PCA stated that coal use in its boilers accelerates boiler decomposition.

Both Boiler #1 and #2 share a baghouse with continuous differential pressure reading. Opacity monitoring is performed on Boiler #2. PCA stated that Roger Smith performed opacity reading in March. PCA is unsure who performs the opacity readings currently. PCA stated that no monitoring is required on Boiler #1 and mono-nitrogen oxides (NOx) monitoring is performed on Boiler #2. Boiler #4A has continuous NOx monitoring. PCA stated that Boiler #1 and #2 both have Continuous Opacity Monitoring System (COMS).

We requested to view records of PCA's certificate of analysis for the coal it receives with sulfur content. PCA said they would pull the records to review in the closing conference.

PCA typically produces 4 rolls from one reel. The rolls are transferred by crane to the winder machine. Two rolls are wound into the "winder." No controls are used on the Paper Machine. From the winder, the final product (corrugated medium) is transferred by conveyor, banded and transported via truck, rail car or shipping storage.

Buildings #2, #3, #4 and #5 house PCA's power generation. Building #55 and #56 house the Bio Energy production. The biogas reactors are near Building #55.

Next, the process water is fed to the biogas reactors. Currently PCA is running 2 of their four reactors (#1 and #2). Granular anaerobic sludge consumes the CO which generates methane and CO₂. PCA uses an enclosed system with a scrubber limited to 50 ppm of H₂S. PCA annually tests the H₂S and performs maintenance as needed. PCA doesn't currently have enough feed source to run reactors #3 and #4, therefore it has only used reactors #1 and #2 since 2011.

We asked PCA to describe how it ensures the sulfur content of the coal it receives is below its permit threshold. PCA stated that it analyses the sulfur content of the coal with each shipment. PCA received its last shipment of coal in 2010. We inquired about the timeline for PCA with respect to receiving the results of the sulfur content in the coal, versus when PCA uses the coal. Ms. Kaltunas stated that she would verify when sulfur content was determined for each load of coal PCA receives.

Next, we inquired about any recent or past stack testing performed at PCA. PCA stated that in May 2013 it completed RATA testing on the NOx CEMS for Boiler #2 and #4A. PCA also completed a PM stack test in 2009 on Boiler #2 and #4A.

After the pulp has been in the cooker, and prior washing the pulp, the filtrate is sent to the recovery process. The filtrate is sent to the long tube vertical evaporator set. The concentrate is a weak liquor which is sent to two long tube vertical and four circular evaporation systems. The concentrate can be up to 50% solids which is categorized as a strong black liquor. The liquor moves through the fluidized reactor, blower and then is sprayed on a bed. This process regenerates the sodium carbonate pellets which can be reintroduced in the pulp washing process. This recovery process uses a Venturi Scrubber with a differential pressure not to exceed 38". The RTO is used during black liquor spraying. The RTO must be at least 1600°F, a limit set by compliance testing performed in 2010. PCA stated that the RTO is typically used in three week cycles with a one week break between use. Additionally, PCA uses a baghouses on Building #5 – Liquor Making Building, with one baghouse each for incoming soda ash, fly ash and sodium carbonate pellets.

PCA stated that at the time of our visit, Paper Machine #2 was down for maintenance. PCA also stated that the debarking operations are currently down, and operated only at night.

We thanked PCA for the information and stated that we were ready to tour the facility.

Facility Tour

Ms. Brahmbhatt, Ms. Caryne Owens, Mr. Nixon, Ms. Kaltunas and I departed the conference room to begin the tour at 10:00 am. Before departing the building, Chris Brandt, PCA Biogas Superintendent, joined the group for the tour.

We began by walking past the round wood storage area (Photo 1) to Building #33 – Wood Room. Prior to entering the Wood Room, we observed one of PCA's chip stockpiles (Photo 2 and Photo 5). Upon entering the Wood Room, I noted piles of wood particulate covering the floor as well as covering machinery throughout the building. I also noted the significant quantity of suspended wood particles within the Wood House (Photo 3). PCA stated that the round wood comes into the Wood Room for debarking and chipping. The chips are screened and then sent to be washed. Prior to exiting the Wood House, we observed the Debarker (Photo 4).

The next step in the process, the chip washing operations, was currently down at the time of the inspection.

Next we walked near the material storage silos. I noted a significant odor near the soda ash silo. PCA stated that the soda ash silo has no pressure transmitter.

PCA stated that if one of its boilers exceeds 8% opacity, it switches over to natural gas on that individual boiler. During the inspection we were introduced to Jerry Nowick, PCA Powerhouse Recovery Superintendent.

PCA stated that the biogas flare is only used in emergency situations. It was not in operation at the time of inspection.

Following observation of material storage, we proceed to the only remaining process in operation during the time of the inspection, Paper Machine #1 (Room #11). We observed the many presses that composed the Paper Machine process (Photo 6). Following, we completed the tour by viewing the completed corrugated medium (Photo 7).

PCA stated the widths of the paper produced from the three Paper Machines were as follows: Paper Machine #1 produced 145" wide, Paper Machine #2 and #3 produced 156" – 160" wide.

The tour ended at 11:06 am.

Closing Discussion

We began the closing discussion by asking PCA if it considered any information it presented to be confidential business information (CBI). We asked them to clearly state which, if any information or photos were CBI. PCA did not assert a CBI claim at the time of the inspection.

We requested recent stack tests performed by PCA, sulfur content of the coal PCA uses, annual deviation reports, opacity monitoring, COMS inspections, RATA test results, and maintenance and monitoring records for PCA's baghouses.

I noted that PCA was missing some daily inspection reports for the Paper Mill baghouses during the years 2011-2012. I reviewed the COMS annual inspection audit and paged through some of the coal sulfur content records, reviewed PCA's annual certification and deviation reports, and PCA's 2013 opacity deviation reports which documented some COMS downtime. PCA had an extended COMS downtime from February 21, 2013 to March 28, 2013. PCA had a second extended COMS downtime starting September 20, 2010. PCA stated that this downtime was attributed to a faulty central processing unit data recorder.

Ms. Brahmbhatt reviewed stack tests for the Copland Reactor (9/28/2010), which showed low operating temperatures; PM stack tests for Boiler #2 (9/14/2011), which showed an exceedance; and the stack test on Boiler #4A (4/7/2009) using biogas as the fuel. Ms. Brahmbhatt also reviewed various emissions tests; a test report for the LVHC collection system; RATA test results (5/30/2012, 11/30/2010 and 2/2/2010); H₂S emission test results for the biogas flare and daily reports for fuel, opacity and emissions.

MDEQ stated that it would provide the inspection report and any issues it noted during the inspection to PCA shortly following the inspection.

We stated that we do not issue inspection reports, but that PCA could request a copy of the report if it made a FOIA request. We also stated that this inspection was led by USEPA and if any action would be taken, they would originate from USEPA.

We concluded the record review and closing discussion at 12:05 pm. We departed the facility immediately following.

Photos



Photo 1: PCA's round wood stockpiles.

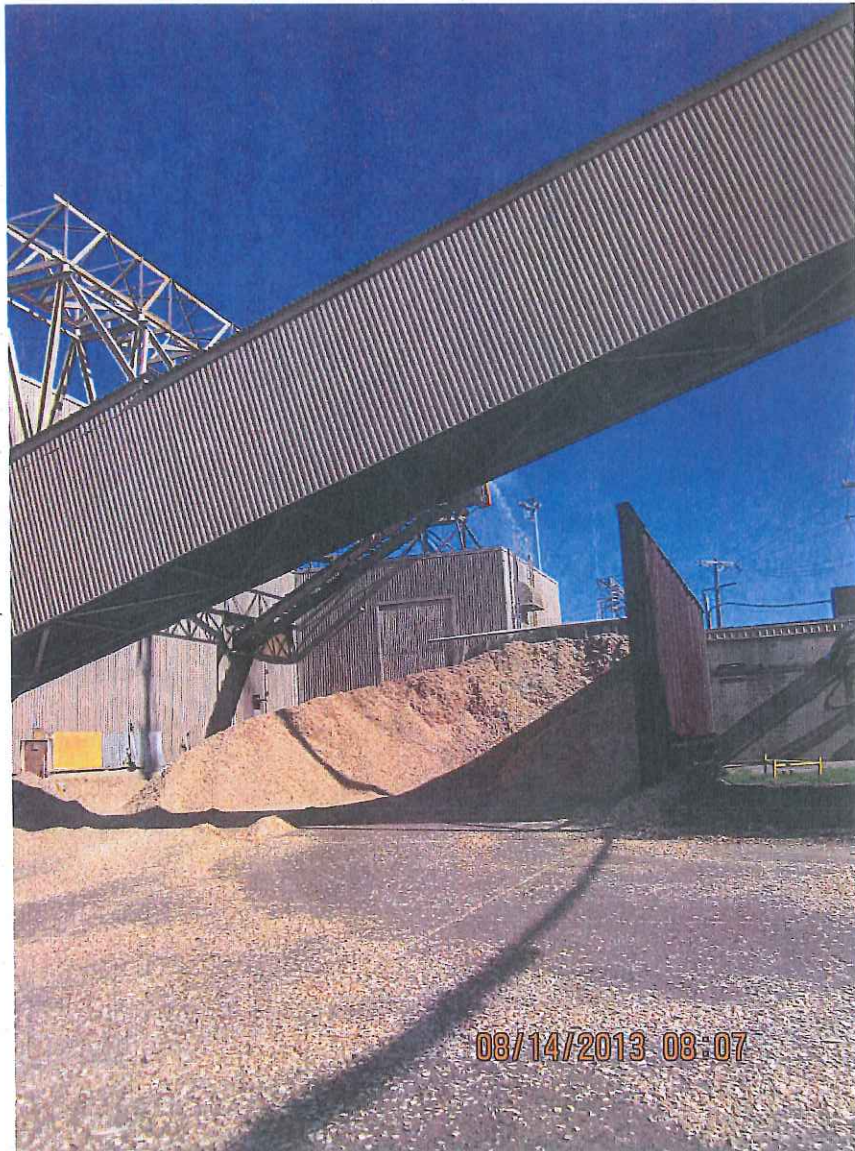


Photo 2: PCA's chip pile, just outside the Wood Room.



Photo 3: Inside PCA's Wood Room. Note the wood dust piles on the floor and suspended wood particulate.



Photo 4: Inside PCA's Wood Room. This is the opening of PCA's Debarker. Note the suspended wood particulate.

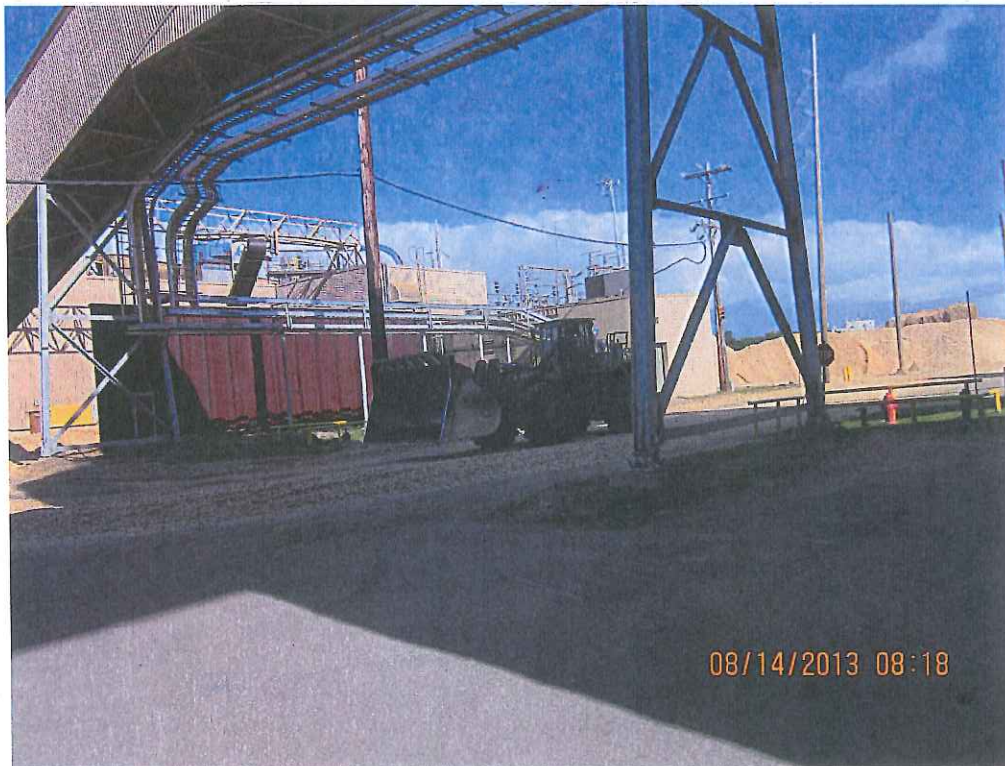


Photo 5: Stockpiles of wood chips at PCA.



Photo 6: One of PCA's Paper Machines.



Photo 7: PCA's finished corrugated medium.

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